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EXAMINER

JUNTIMA, NITTAYA

ART UNIT PAPER NUMBER

2663

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,646

Applicant(s)

KELLER, WALTER

Examiner

Nittaya Juntima

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) 1, 4, 14 and 17-20 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 2, 3, 5-13, 15, 16 and 21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 3/3/2005.
2. The objections to the drawings, specification, and claims are withdrawn in view of applicant's amendment.
3. Claims 1, 4, 14, and 17-20 have been cancelled.
4. The previous indication of the allowable subject matter for claim 4 in the Office action mailed on 12/01/2004 is withdrawn. Claims 21, 2-3, 5-13, and 15-16 are now rejected under 35 U.S.C 103(a).

Claim Objections

5. Claims 3, 5, 7-8, 11, 13, and 15-16 are objected to because of the following informalities:
 - in claims 3 and 13, ll 2, "stream" and "was" should be changed to "streams" and "were," respectively, see "several data streams" in ll 10 of claim 21;
ll 3, "the original data stream" should be changed to "original data streams;"
 - in claim 5, ll 2, "a" that refers to CAC and ICAMU should be changed to "the" to refer to both CAC and ICAMU in claim 21;
 - in claim 7, ll 5, "components" should be changed to "functional units" because transmission channels exist between the functional unit on the user's side and the function unit on the core network side, not between the application-specific components in claim 21;
 - in claim 8, ll 3, "stream" should be changed to "streams;"

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- in claim 11, ll 2, "the" should be changed to "a" to avoid lack of antecedent basis.
- in claims 15 and 16, ll 1-2, "a" that refers to CAC and ICAMU should be changed to "the" to refer to both CAC and ICAMU in claim 21;

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21, 2-3, and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakoda et al. ("Sakoda") (USPN 6,088,345) in view of Miller et al. ("Miller") (USPN 6,421,707 B1).

Regarding claim 21, Sakoda teaches a method comprising:

Providing a functional unit on the user's side (a terminal apparatus shown in Fig. 10) as well as a functional unit on the side of the core network (a base station shown in Fig. 2) for handling a multimedia data stream (data strings of audio, facsimile image, and electronic mail data transmitted simultaneously in one frequency band are collectively a multimedia data stream, col. 10, ll 5-35 and col. 12, ll 1-19),

Recognizing, in the functional units (a terminal apparatus shown in Fig. 10 and a base station shown in Fig. 2) and depending on the direction of the multimedia data stream, particular applications (audio, facsimile image, and electronic mail) within the multimedia data stream by

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means of suitable parameters including indicators (control data, col. 4, ll 1-21 and col. 5, ll 32-36).

Separating the recognized applications completely by the specific data structure and generating several data streams (on the transmission from the terminal apparatus to the base station, different types of data strings, e.g. audio, facsimile image, and electronic mail data, are separated, modulated, and transmitted separately in their respective group of subcarriers, Fig. 10, col. 4, ll 1-37, col. 10, ll 5-35, and col. 12, ll 1-9).

Transmitting the several data streams individually and in parallel by their specific data structure via available transmission channels of the mobile communications network which are optimized for respective needs of the individual data streams (on the transmission from the terminal apparatus to the base station, different types of data strings, e.g. audio, facsimile image, and electronic mail data, are separately processed by the respective processors, modulated, and transmitted separately and simultaneously in their respective group of subcarriers, Fig. 10, col. 4, ll 1-37, col. 10, ll 5-35, and col. 12, ll 1-9, see further Fig. 9B and col. 12, ll 20-33).

Re-assembling the data streams on a receiver side (at the base station, data are demodulated into the demodulated reception data, Fig. 2 and col. 5, ll 1-21, see also Fig. 7).

However, Sakoda does not teach the step of optionally not aggregating completely some application-specific components of the data streams, and further transmitting the non-aggregated components at least in part as a separate data stream via data networks to other receivers.

In Fig. 3, Miller teaches that email (some application-specific components) received from mobile 301 via MSC 360 is separately forwarded to Interworking function IWF 350 and wireless data server WDS 320 (350 and 320 are collectively data networks) and further to the Internet 310

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(other receivers read on network elements within the internet, e.g. routers), while voice/fax is forwarded to PSTN 330 then to WDS 320. See col. 3, ll 66-col. 4, ll 15, and also col. 2, ll 43-64 and col. 3, ll 57-61.

Because Sakoda teaches that the data streams including email transmitted by the mobile unit are demodulated into the demodulated reception data and further transmitted via line 57 by the base station to a communication control station (e.g. MSC), Figs. 1-2, col. 4, ll 29-37 and col. 5, ll 12-21, and given the teaching of Miller, it would have been obvious to one skilled in the art to modify the teaching of Sakoda to include the step of optionally not aggregating completely some application-specific components of the data streams, and further transmitting the non-aggregated components at least in part as a separate data stream via data networks to other receivers as recited in the claim. The suggestion/motivation to do so would have been to forward different types of data streams to their respective networks for appropriate processing and routing (Miller, Fig. 2).

Per claim 2, Sakoda teaches that a data-specific separation (transmission of multi carrier signals), which overcomes an air interface for the purpose of optimal use of frequency resources (a predetermined frequency band) and to obtain optimal transmission quality of individual applications within a multimedia application (preferable transmission conditions). See col. 10, ll 5-65.

Per claim 7, Sakoda further teaches that the functional unit on the user's side (a terminal apparatus, Fig. 10) as well as the functional unit on the side of the core network (a base station shown in Fig. 2) communicate with each other by means of inband signaling (a signal requesting to set another transmission channel is transmitted using a part of the predetermined transmission

channel), such that the needs of an optimized data transfer via various transmission channels between the functional units are met (col. 12, ll 34-45).

Per claim 11, Sakoda teaches that the method enabling the network provider to allocate channels for dynamic load distribution and load optimization of alternative transmission channels (channel allocation of transmission channels, col. 12, ll 46-65).

Per claims 3 and 13, Sakoda further teaches that the data streams (data strings of different types of data) that were separated according to data structure (multi carrier system) are re-assembled (demodulated) after the optimized parallel transmission (transmission of multi carrier signals) into original data streams (the demodulated reception data). See col. 5, ll 1-21, col. 10, ll 5-48, col. 12, ll 20-33, and Fig. 9B).

However, Sakoda does not explicitly teach that the optimization transmission is transparent to the user.

However, Sakoda mentions that preferable transmission conditions are maintained while the multi carrier signals are carried out, col. 10, ll 36-65. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that the optimization transmission is transparent to the user because one would not notice a change in the transmission conditions when the preferable transmission conditions are maintained.

Per claim 8, Sakoda fails to teach that the functional unit on the side of the core network provides an additional service to the user by optional conversion of the data streams from the user into other standardized multimedia or protocol forms and to transmit them through alternative pathways as needed.

However, Sakoda discloses that the base station transmits the demodulated reception data to a communication control station via an exclusive line 57 (col. 5, ll 16-21). An official notice is taken that for reliability and redundancy purposes, it is normal to have an alternate route/path to back up a primary route/path when a failure occurs. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of Sakoda to include having the functional unit on the side of the core network to provide an additional service to the user by optional conversion of the data streams from the user into other standardized multimedia or protocol forms and to transmit them through alternative pathways as needed as recited in the claim. The suggestion/motivation to do so would have been to accommodate a situation where there are more suitable/efficient protocol forms for transmission over alternative pathways to the communication control station or in a case where either the control station or the line 57 is not operating for reliability and redundancy purposes.

Per claim 9, Sakoda fails to teach that at least the functional unit on the side of the core network is to handle appropriate routing and signaling mechanisms to transmit application or data structure specific parts of multimedia data streams via various transmission networks.

However, Sakoda teaches transmission of a plurality of types of data such as audio, facsimile, and electronic mail data using a multi carrier system from a terminal apparatus to a base station (col. 10, ll 5-35). Therefore, it would have been obvious to one skilled in the art to include the functional unit on the side of the core network that handles appropriate routing and signaling mechanisms to transmit application or data structure specific parts of multimedia data streams via various transmission networks into the teaching of Sakoda such that different data type would be properly signaled and routed to its destination.

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Per claim 10, Sakoda does not teach that the claimed method may be used in fixed network systems in like manner as needed. However, it would have been obvious to one skilled in the art at the time the invention was made to apply the claimed method in fixed network systems as such application involves only routine skills in the art and as long as it does not yield any unexpected results.

Per claim 12, Sakoda fails to teach that the method enabling the user to use the method for a customer-specific selection and choice method in areas including services used and quality of service.

However, Sakoda teach that the user at the terminal apparatus is allowed to transmit different types of data supplied from different data processing apparatuses, col. 12, ll 1-9, and preferable transmission conditions are maintained, col. 10, ll 55-65. Therefore, it would have been obvious to one skilled in the art to modify the teaching of Sakoda to include appropriate action on the part of the user for a customer-specific selection and choice method in areas including services used and quality of service in order to appropriately inform the system of user requirements on the types of data to be communicated and their quality levels.

8. Claims 5 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakoda et al. (USPN 6,088,345) in view of Miller et al. ("Miller") (USPN 6,421,707 B1), and further in view of an art of record (WO 95/18491).

Per claims 5 and 15-16, Sakoda fails to teach the functional unit on the user's side as well as the functional unit on the side of the core network, which are designed such that a permanent method for updating to new methods and protocols as recited in the claims is possible.

However, the art of record teaches that a data communication device is designed in its software modules for microprocessors (firmware) such that an update of partial functions is provided wirelessly which allows for a permanent method for updating new methods and protocols (firmware, which must include protocol, conversion, and algorithm-specific components, is updated wirelessly, Abstract, Fig. 1, page 10, ll 31-page 11, ll 1-10).

Given the teaching of the art of record, it would have been obvious to one skilled in the art at the time the invention was made to modify the functional unit on the user's side as well as the functional unit on the side of the core network to be designed in their protocol, conversion, and algorithm-specific components preferably as software modules for microprocessors in such a way that an update of partial functions as needed via the mobile radio communications network is possible, which thus allows for a permanent method for updating to new methods and protocols as recited in the claim. The motivation/suggestion to do so would have been to enable software updates to be provided to the user wirelessly as taught by the art of record (page 11, ll 6-10).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakoda et al. ("Sakoda") (USPN 6,088,345) in view of Miller et al. ("Miller") (USPN 6,421,707 B1), and further in view of an art of record (WO 97/26739).

Per claim 6, Sakoda fails to teach providing an optional connection between the network functional unit and a CCBS of a network operator as recited in the claim.

However, as shown Fig. 1, the art of record teaches a connection between a base station (BSC) and a CCBS (a billing gateway support node BGGSN) of a network operator (operator 1) for the billing of offered services and a creation and verification of use by a single user (BGGSN

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receives user-specific charging information and forwards charging information to a charging system which must inherently include creation and verification of use by a single user, Abstract and page 8, ll 6-page 9, ll 1-3).

Since the network functional unit (a reception system of a base station shown in Fig. 2, col. 4, ll 66-col. 5, ll 1-21) of Sakoda is located at the base station and given the teaching of the art of record with a connection between a base station and Customer Care and Billing System, it would have been obvious to one skilled in the art when the invention was made to include having an optional connection between the network functional unit (the reception system of the base station) and a CCBS a network operator for the billing of offered services and a creation and verification of the use covered by the method by a single user. The motivation/suggestion to do so would have been to provide charging information as taught by the art of record (Abstract).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima

August 1, 2005

NJ


RICKY NGO
PRIMARY EXAMINER

8/1/05